AMENDMENTS TO THE CLAIMS

The following listing of claims replaces all prior listings, and all prior versions, of claims in the application.

LISTING OF CLAIMS:

1. (Currently Amended) An ultrasonic probe including a plurality of transducers in an array for converting drive signals into ultrasonic waves to transmit the waves to an object to be inspected and converting the waves into electrical signals to receive ultrasonic waves generated from the object, wherein

each of the transducers comprises a plurality of oscillation elements, each of the oscillation elements has a characteristic of changing an electromechanical coupling coefficient in accordance with strength of a direct-current bias applied by being superposed on the drive signal, and an electrode of each of the transducers is connected to a terminal provided with the drive signal, ~~and~~

the plurality of oscillation elements are divided into a plurality of groups including sections of the oscillation elements, and

a number of the ~~oscillation elements~~sections pertaining to each of the divided groups ~~increases for each group as the element gets closer a center of an ultrasonic aperture~~change in accordance with a focal depth to which the direct-current bias is to be applied.

2. (Cancelled).

3. (Previously Presented) The ultrasonic probe according to claim 1, wherein the plurality of oscillation elements are divided into a plurality of groups in a minor-axis direction.

4. (Previously Presented) The ultrasonic probe according to claim 1, wherein the plurality of oscillation elements are divided into a plurality of groups in a major-axis direction.

5. (Previously Presented) The ultrasonic probe according to claim 1, wherein the plurality of oscillation elements are formed at equal intervals, the oscillation elements are divided into a plurality of groups having an equal number of the oscillation elements.

6. (Previously Presented) The ultrasonic probe according to claim 1, wherein the electrode of each of the oscillation elements pertaining to a same group are commonly connected.

7. (Currently Amended) The ultrasonic probe according to claim 1, wherein the terminal is connected to a power source through ~~switching means~~a switch.

8. (Previously Presented) The ultrasonic probe according to claim 1, wherein the oscillation elements each comprise a material including a semiconductor compound.

9. (Currently Amended) An ultrasonic imaging apparatus comprising:

an ultrasonic probe according to claim 1;

~~transmitting means for supplying~~a transmitter configured to supply drive signals to the oscillation elements of the ultrasonic probe;

~~receiving means for processing~~a receiver configured to process electrical signals output from the oscillation elements; and

~~image processing means for reconstructing~~an image processor configured to reconstruct an ultrasound image based on signals output from the ~~receiving means~~receiver;

wherein ~~bias means applying a~~a bias is configured to apply the direct-current bias on the oscillation elements by superposing the bias on the drive signal is connected to electrodes of the oscillation elements through the terminal.

10. (Currently Amended) The ultrasonic imaging apparatus according to claim 9, wherein the bias ~~means~~ includes a direct-current power source, ~~distribution means for dividing~~a distributor configured to divide a direct-current bias provided from the direct-current power source, and ~~switching means for applying~~a switch configured to apply each direct-current bias supplied from the ~~distribution means~~distributer to electrodes of the oscillation elements in accordance with a control command through the terminal.

11. (Currently Amended) The ultrasonic imaging apparatus according to claim 9, wherein the bias ~~means~~ applies a direct-current bias having different strength for each of the groups to each of the oscillation elements.

12. (Currently Amended) The ultrasonic imaging apparatus according to claim 9, wherein the plurality of oscillation elements are divided into a plurality of groups in a minor-axis direction, and the bias ~~means~~ applies a direct-current bias having different strength for each of the groups to each of the oscillation elements.

13. (Currently Amended) The ultrasonic imaging apparatus according to claim 9, wherein the bias ~~means~~ applies a direct-current bias having different strength for each of the groups to each of the oscillation elements.

14. (Currently Amended) The ultrasonic imaging apparatus according to claim 9, wherein the bias ~~means~~ applies a direct-current bias increasing for each group as the oscillation elements gets closer a center of an ultrasonic aperture.

15. (Currently Amended) The ultrasonic imaging apparatus according to claim 9, wherein the bias ~~means~~ applies a direct-current bias to each oscillation element such that an electromechanical coupling coefficient of each of the oscillation elements increases as the oscillation element gets closer a center of a minor-axis direction.

16. (Currently Amended) The ultrasonic imaging apparatus according to claim 9, wherein the bias ~~means~~ selects the oscillation element to which a direct-current bias is applied for each group in accordance with a distance from the ultrasonic probe to an imaging portion.

17. (Currently Amended) The ultrasonic imaging apparatus according to claim 9, further comprising: ~~storage means for storing~~ a storage device configured to store signal strength of an ultrasonic wave transmitted from each of the oscillation elements and ~~correction control means for generating~~ a correction controller configured to generate a command to correct an electromechanical coupling coefficient of each of the oscillation elements based on the signal strength to a

setting value, wherein the bias ~~means~~ applies a direct-current bias corrected based on the correction command to each of the oscillation elements.

18. (Previously Presented) The ultrasonic imaging apparatus according to claim 9, wherein the bias ~~means~~ applies a direct-current bias applied to each of the oscillation elements when an ultrasonic wave is transmitted from each of the oscillation elements to the object, or applies a direct-current bias to each of the oscillation elements when ultrasonic waves generated from the object are received by each of the oscillation elements.

19. (Previously Presented) The ultrasonic imaging apparatus according to claim 9, wherein the bias ~~means~~ applies a direct-current bias having weight for each group symmetrically with respect to a center of an ultrasonic aperture in a minor-axis direction or in a major-axis direction to each of the oscillation elements.

20. (Previously Presented) The ultrasonic imaging apparatus according to claim 9, wherein the bias ~~means~~ applies a direct-current bias having weight for each group asymmetrically with respect to a center of an ultrasonic aperture in a minor-axis direction or in a major-axis direction to each of the oscillation elements.

21. (Currently Amended) A method of ultrasonic imaging comprising:

~~a step for~~ applying a direct-current bias to a plurality of oscillation elements possessed by each transducer arrayed in an ultrasonic probe and changing an electromechanical coupling coefficient of each of the oscillation elements to a setting value;

~~a step for~~ supplying a drive signal to each of the oscillation elements by superposing the drive signal on the direct-current bias, ~~and the direct-current bias is supplied for each group in accordance with a distance from the ultrasonic probe to an imaging portion,~~

~~a step for~~ transmitting an ultrasonic wave to an object to be inspected from each of the oscillation elements; and

~~a step for~~ receiving an ultrasonic wave generated by the object by each of the oscillation elements to convert the wave into an electrical signal and reconstructing an ultrasound image based on the converted electrical signal,

wherein the plurality of oscillation elements are divided into a plurality of groups including sections of the oscillation elements, and

wherein a number of the sections pertaining to each of the divided groups change in accordance with the focal depth to which the direct-current bias is to be applied.